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By:  Printed: Ted Martinez

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Bandman et al.

Title: DISEASE ASSOCIATED PROTEIN KINASES

Serial No.: To Be Assigned

Filing Date: Herewith

Examiner: To Be Assigned

Group Art Unit: To Be Assigned

Official Draftsman

Commissioner for Patents

Washington, D.C. 20231

SUBMISSION OF FORMAL DRAWINGS

Sir:

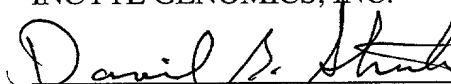
Transmitted herewith are Figure(s) 1A, 1B, 1C, 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B, 6A, 6B, 7A, and 7B, as fifteen (15) sheets of formal drawings for this application. Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c) on the reverse side of the drawings.

Applicants believe that no fee is due with this paper. However, if the Commissioner determines that a fee is necessary, the Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. **09-0108**. **A duplicate copy of this communication is enclosed.**

If there are any questions regarding the above, the Examiner is invited to call the undersigned at 650-855-0555.

Respectfully submitted,

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|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|--------|----------|--------|----------|
| 1 | M | E | L | L | R | T | I | T | Y | Q | P | A | A | S | T | K | M | C | E | Q | A | L | G | K | G | C | G | A | D | S | K | K | R | P | P | P | E | DAPK-1 | | | |
| 1 | M | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | g1488263 | | | | |
| 41 | E | S | Q | P | P | Q | S | Q | A | Q | V | P | P | A | A | P | H | H | H | H | H | S | H | S | G | P | E | I | S | R | I | I | V | D | P | T | T | G | K | DAPK-1 | |
| 2 | - | - | - | - | - | - | - | - | - | - | L | A | G | L | P | T | S | D | P | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | g1488263 | | |
| 81 | R | Y | C | R | G | K | V | L | G | K | G | G | F | A | K | C | Y | E | M | T | D | L | T | N | N | K | V | Y | A | A | K | I | I | P | H | S | R | V | A | K | DAPK-1 |
| 22 | T | Y | L | K | G | R | L | L | G | K | G | G | F | A | R | C | Y | E | A | T | D | T | E | T | G | S | A | Y | A | V | K | V | I | P | Q | S | R | V | A | K | g1488263 |
| 121 | P | H | Q | R | E | K | I | D | K | E | I | E | L | H | R | I | L | H | K | H | V | V | Q | F | Y | H | Y | F | E | D | K | E | N | I | Y | I | L | L | E | DAPK-1 | |
| 62 | P | H | Q | R | E | K | I | L | N | E | I | E | L | H | R | D | L | Q | H | R | H | I | V | R | F | S | H | H | F | E | D | A | D | N | I | Y | I | F | L | E | g1488263 |
| 161 | Y | C | S | R | R | S | M | A | H | I | L | K | A | R | K | V | L | T | E | P | E | V | R | Y | Y | L | R | Q | I | V | S | G | L | K | Y | L | H | E | Q | E | DAPK-1 |
| 102 | L | C | S | R | K | S | L | A | H | I | W | K | A | R | H | T | L | L | E | P | E | V | R | Y | Y | L | R | Q | I | L | S | G | L | K | Y | L | H | Q | R | G | g1488263 |
| 201 | I | L | H | R | D | L | K | L | G | N | F | F | I | N | E | A | M | E | L | K | V | G | D | F | G | L | A | A | R | L | E | P | L | E | H | R | R | R | T | I | DAPK-1 |
| 142 | I | L | H | R | D | L | K | L | G | N | F | F | I | T | E | N | M | E | L | K | V | G | D | F | G | L | A | A | R | L | E | P | P | E | Q | R | K | K | T | I | g1488263 |

FIGURE 1A

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|----------|---|----------|
| 241 | C | G | T | P | N | Y | L | S | P | E | V | L | N | K | Q | G | H | G | C | E | S | D | I | W | A | L | G | C | V | M | Y | T | M | L | L | G | R | P | P | F | DAPK-1 | | |
| 182 | C | G | T | P | N | Y | V | A | P | E | V | L | L | R | Q | G | H | G | P | E | A | D | V | W | S | L | G | C | V | M | Y | T | L | L | C | G | S | P | P | F | g1488263 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 281 | E | T | N | L | K | E | T | Y | R | C | I | R | E | A | R | Y | T | M | P | S | S | L | L | A | P | A | K | H | L | I | A | S | M | L | S | K | N | P | E | DAPK-1 | | | |
| 222 | E | T | A | D | L | K | E | T | Y | R | C | I | K | Q | V | H | Y | T | L | P | A | S | L | S | L | P | A | R | Q | L | L | A | I | L | R | A | S | P | R | g1488263 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 321 | D | R | P | S | L | D | D | I | I | R | H | D | F | F | L | O | G | F | T | P | D | R | L | S | S | S | C | C | H | T | V | P | D | F | H | L | S | S | P | A | DAPK-1 | | |
| 262 | D | R | P | S | I | D | Q | I | L | R | H | D | F | F | T | K | G | Y | T | P | D | R | L | P | I | S | C | V | T | V | P | D | L | T | P | P | N | P | A | g1488263 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 361 | K | N | F | F | K | K | A | A | A | L | F | G | G | K | K | D | K | A | R | Y | I | D | T | H | N | R | V | S | K | E | D | E | D | I | Y | K | L | R | H | DAPK-1 | | | |
| 302 | R | S | L | F | A | K | V | T | K | S | L | F | G | R | K | K | K | S | K | N | H | - | - | - | - | - | - | A | Q | E | R | D | E | V | S | G | L | V | S | g1488263 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 401 | D | L | K | K | T | S | I | T | Q | Q | P | S | K | H | R | T | D | E | E | L | Q | P | P | T | T | T | V | A | R | S | G | T | P | A | V | E | N | K | Q | Q | DAPK-1 | | |
| 335 | G | L | M | R | T | S | V | G | H | Q | D | A | R | P | E | A | P | A | S | G | P | A | P | V | S | L | - | - | - | - | - | - | - | - | - | - | V | E | T | A | P | E | g1488263 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 441 | I | G | D | A | I | R | M | I | V | R | G | T | L | G | S | C | S | S | S | S | E | C | L | E | D | S | T | M | G | S | V | A | D | T | V | A | R | V | L | R | DAPK-1 | | |
| 368 | D | S | S | P | - | - | - | - | - | R | G | T | L | A | S | S | G | D | G | F | E | - | - | E | G | L | T | V | A | T | V | E | S | A | L | C | A | L | R | g1488263 | | | |

FIGURE 1B

481 G C L E N M P E A D C I P K E - Q L S T S F Q W V T K W V D Y S N K Y G F G Y Q DAPK-1
401 N C I A F M P P A E Q N P A P L A Q P E P L V W V S K W V D Y S N K F G F G Y Q g1488263

520 L S D H T V G V L F N N G A H M S L L P D K K T A H Y Y A E L G Q C S V F P A T DAPK-1
441 L S S R R V A V L F N D G T H M A L S A N R K T V H Y N P T S T K H F S F S V G g1488263

560 D A P E Q F I S Q V T V L K Y F S H Y M E E N L M D G G D L P S V T D I R R P - DAPK-1
481 A V P R A L Q P Q L G I L R Y F A S Y M E Q H L M K G G D L P S V E E V E V P A g1488263

599 R L Y L L Q W L K S D K A L M M L F N D G T F Q V N F Y H D H T K I I I C S Q N DAPK-1
521 P P L L L Q W V K T D Q A L L M L F S D G T V Q V N F Y G D H T K L I L S G - W g1488263

639 E E Y L L T Y I N E D R I S T T F R L T T L L M S G C S S E L K N R M E Y A L N DAPK-1
560 E P L L V T F V A R N R S A C T Y L A S H L R Q L G C S P D L R Q R L R Y A L R g1488263

679 M L L Q R C - N DAPK-1
600 L L R D R S P A g1488263

FIGURE 1C

| | | | | |
|-----|---|---|---|----------|
| 1 | M P P K R | - - - - - | N E K Y K L P I P F P P E G K V L D D M E G N Q W V L G | DAPK-2 |
| 1 | M P R V K A A Q A G R Q S S A K R H L A E Q F A V G E I I T D M A K K E W K V G | | | g1827450 |
| 33 | K K I G S G G F G L I Y L A | - - | F P T N K P E K D A R H V V K V E Y Q E N G P L | DAPK-2 |
| 41 | L P I G Q G G F G C I Y L A | D M N S S E S V G S D A P C V V K V E P S D N G P L | | g1827450 |
| 71 | F S E L K F Y Q R V A K K D C I K K W I E R K Q L D Y L G I P L F Y G S G L T E | | | DAPK-2 |
| 81 | F T E L K F Y Q R A A K P E Q I Q K W I R T R K L K Y L G V P K Y W G S G L H D | | | g1827450 |
| 111 | F K G R S Y R F M V M E R L G I D L Q K I S G Q N G T - | F K K S T V L Q L G I R | | DAPK-2 |
| 121 | K N G K S Y R F M I M D R F G S D L Q K I Y E A N A K R F S R K T V L Q L S L R | | | g1827450 |
| 150 | M L D V L E Y I H E N E Y V H G D V K A A N L L L G Y K N P D Q V Y L A D Y G L | | | DAPK-2 |
| 161 | I L D I L E Y I H E H E Y V H G D I K A S N L L L N Y K N P D Q V Y L V D Y G L | | | g1827450 |
| 190 | S Y R Y C P N G N H K Q Y Q E N P R K G H N G T I E F T S L D A H K G V G E I A | | | DAPK-2 |
| 201 | A Y R Y C P E G V H K E Y K E D P K R C H D G T I E F T S I D A H N G V A P - - | | | g1827450 |

FIGURE 2A

| | | |
|-----|---|----------|
| 230 | Q F L V C A H S L A Y D E K P N Y Q A L K K I L N P H G I P L G P L D F S T K G | DAPK-2 |
| 239 | - - - - - - - - - - - - - - - - S R R G - D L E I L G Y C - M I | g1827450 |
| 270 | Q S I N V H T P N S Q K V D S Q K A A T K Q V N K A H N R L I E K K V H S E R S | DAPK-2 |
| 253 | Q W L T G H L P W E D N L K D P K Y V R D S - - - - - - - - - - - - - - - - | g1827450 |
| 310 | A E S C A T W K V Q K E E K L I G L M N N E A A Q E S T R - R R Q K Y Q E S Q E | DAPK-2 |
| 275 | - - - - - - K I R Y R E N I A S L M D K C F P E K N K P G E I A K Y M E T V K | g1827450 |
| 349 | P L N E V N S F P Q K I S Y T Q F P N S F Y E P H Q D F T S P D I F K - - - K S | DAPK-2 |
| 308 | L L D - - - - Y T E K P L Y E N L R D I L L Q G L K A I G S K D D G K L D L S V | g1827450 |
| 386 | R S P S W Y K Y T S T V S T G I T D L E S S T G L W P T I S Q F T L S E E T N A | DAPK-2 |
| 344 | V E N G G L K A K T I T K K R K K E I E S K E - - P G V E D T E W S N T Q T E | g1827450 |
| 426 | D V Y Y Y R I I I P V L L M L V F L A L F F L | DAPK-2 |
| 382 | E A I O T R S R T R K R V Q K | g1827450 |

FIGURE 2B

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|---------|
| 1 | M | L | A | R | R | K | P | V | L | P | A | L | T | I | N | P | T | I | A | E | G | P | S | P | T | S | E | G | A | S | E | A | N | L | V | D | L | Q | K | K | DAPK-3 |
| 1 | M | L | A | R | R | K | P | V | L | P | A | L | T | I | N | P | T | I | A | E | G | P | S | P | T | S | E | G | A | S | E | A | H | L | V | D | L | Q | K | K | g303804 |
| 41 | L | E | E | L | E | L | D | E | Q | Q | K | R | L | E | A | F | L | T | Q | K | A | K | V | G | E | L | K | D | D | D | F | E | R | I | S | E | L | G | A | DAPK-3 | |
| 41 | L | E | E | L | D | L | D | E | Q | Q | R | K | R | L | E | A | F | L | T | Q | K | A | K | V | G | E | L | K | D | D | D | F | E | R | I | S | E | L | G | A | g303804 |
| 81 | G | N | G | G | V | V | T | K | V | Q | H | R | P | S | G | L | I | M | A | R | K | L | I | H | L | E | I | K | P | A | I | R | N | Q | I | I | R | E | L | Q | DAPK-3 |
| 81 | G | N | G | G | V | V | T | K | A | R | H | R | P | S | G | L | I | M | A | R | K | L | I | H | L | E | I | K | P | A | V | R | N | Q | I | I | R | E | L | Q | g303804 |
| 121 | V | L | H | E | C | N | S | P | Y | I | V | G | F | Y | G | A | F | Y | S | D | G | E | I | S | I | C | M | E | H | M | D | G | G | S | L | D | H | L | L | K | DAPK-3 |
| 121 | V | L | H | E | C | N | S | P | Y | I | V | G | F | Y | G | A | F | Y | S | D | G | E | I | S | I | C | M | E | H | M | D | G | G | S | L | D | Q | V | L | K | g303804 |
| 161 | E | A | K | R | I | P | E | E | I | L | G | K | V | S | I | A | V | L | R | G | L | A | Y | L | R | E | K | H | Q | I | M | H | R | D | V | K | P | S | N | I | DAPK-3 |
| 161 | E | A | K | R | I | P | E | D | I | L | G | K | V | S | I | A | V | L | R | G | L | A | Y | L | R | E | K | H | Q | I | M | H | R | D | V | K | P | S | N | I | g303804 |

FIGURE 3A

| | | |
|-----|---|---------|
| 201 | L V N S R G E I K L C D F G V S G Q L I D S M A N S F V G T R S Y M A P E R L Q | DAPK-3 |
| 201 | L V N S R G E I K L C D F G V S G Q L I D S M A N S F V G T R S Y M S P E R L Q | g303804 |
| 241 | G T H Y S V Q S D I W S M G L S L V E L A V G R Y P I P P P D A K E L E A I F G | DAPK-3 |
| 241 | G T H Y S V Q S D I W S M G L S L V E L A I G R Y P I P P P D A K E L E A S F G | g303804 |
| 281 | R P V V D G E E G E P H S I S P R P R P P G R P V S G H G M D S R P A M A I F E | DAPK-3 |
| 281 | R P V V D G A D G E P H S V S P R P R P P G R P I S G H G M D S R P A M A I F E | g303804 |
| 321 | L L D Y I V N E P P P K L P N G V F T P D F Q E F V N K C L I K N P A E R A D L | DAPK-3 |
| 321 | L L D Y I V N E P P P K L P S G V F S S D F Q E F V N K C L I K N P A E R A D L | g303804 |
| 361 | K M L T N H T F I K R S E V E E V D F A G W L C K T L R L N Q P G T P T R T A V | DAPK-3 |
| 361 | K L L T N H A F I K R S E G E D V D F A G W L C R T L R L K Q P S T P T R T A V | g303804 |

FIGURE 3B

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------|--|--|--|--|--|--|--|--|--|-----------------|--|--|--|--|--|--|--|--|--|----------------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|
| 1 | MAMT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | AGTTTTPC | | | | | | | | | | SSMSSNHTRERVTVA | | | | | | | | | | KLTLENFYSNLI | | | | | | | | | | LQHHE | | | | | | | | | | DAPK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | MAMT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | -GST | | | | | | | | | | PCSSMSSNHTRERVT | | | | | | | | | | MTKVTLENFYSNLI | | | | | | | | | | AQHHE | | | | | | | | | | g854170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | ERETRQ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | KKLEVA | | | | | | | | | | MEEEGLA | | | | | | | | | | DEEEKKLRRSQ | | | | | | | | | | HARKET | | | | | | | | | | EFLRL | | | | | | | | | | DAPK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | EREM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | RQKKLE | | | | | | | | | | KVMEEEGLK | | | | | | | | | | DEEEKRLRRSA | | | | | | | | | | HARKET | | | | | | | | | | EFLRL | | | | | | | | | | g854170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | KRTRLGL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | DDFESL | | | | | | | | | | KVIGRGAF | | | | | | | | | | GEVRLV | | | | | | | | | | HKKDTGH | | | | | | | | | | IYAMKI | | | | | | | | | | DAPK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | KRTRLGL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | EDFESL | | | | | | | | | | KVIGRGAF | | | | | | | | | | GEVRLV | | | | | | | | | | QKKDTGH | | | | | | | | | | VYAMKI | | | | | | | | | | g854170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | LRKSD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MLEKEQ | | | | | | | | | | VAHIRA | | | | | | | | | | ERDIL | | | | | | | | | | VEAD | | | | | | | | | | GAWV | | | | | | | | | | VKMFY | | | | | | | | | | SFQDK | | | | | | | | | | DAPK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | LRKA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | DMLEKEQ | | | | | | | | | | VGHIRA | | | | | | | | | | ERDIL | | | | | | | | | | VEAD | | | | | | | | | | SLWV | | | | | | | | | | VKMFY | | | | | | | | | | SFQDK | | | | | | | | | | g854170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 161 | RNL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | YLI | | | | | | | | | | MEFL | | | | | | | | | | PGGD | | | | | | | | | | MMTLL | | | | | | | | | | MKKDTL | | | | | | | | | | TEETQ | | | | | | | | | | FYIS | | | | | | | | | | ETVLA | | | | | | | | | | DAPK-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 160 | LN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | LYLI | | | | | | | | | | MEFL | | | | | | | | | | PGGD | | | | | | | | | | MMTLL | | | | | | | | | | MKKDTL | | | | | | | | | | TEETQ | | | | | | | | | | FYIA | | | | | | | | | | ETVLA | | | | | | | | | | g854170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 201 | IDA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | IHQL | | | | | | | | | | GFI | | | | | | | | | | HRDI | | | | | | | | | | KPD | | | | | | | | | | NLL | | | | | | | | | | LLDA | | | | | | | | | | KGV | | | | | | | | | | KLS | | | | | | | | | | DFG | | | | | | | | | | SCTGLKK | | | | | | | | | | DAPK-4 | | | | | | | | | |
| 200 | IDS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | IHQL | | | | | | | | | | GFI | | | | | | | | | | HRDI | | | | | | | | | | KPD | | | | | | | | | | NLL | | | | | | | | | | LLDS | | | | | | | | | | KGV | | | | | | | | | | KLS | | | | | | | | | | DFGL | | | | | | | | | | CTGLKK | | | | | | | | | | g854170 | | | | | | | | | |

FIGURE 4A

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|---------|--------|
| 241 | A | H | R | T | E | F | Y | R | N | L | T | H | N | P | P | S | D | F | S | F | Q | N | M | N | S | K | R | K | A | E | T | W | K | K | N | R | R | Q | L | A | DAPK-4 | |
| 240 | A | H | R | T | E | F | Y | R | N | L | N | H | S | L | P | S | D | F | T | F | Q | N | M | N | S | K | R | K | A | E | T | W | K | R | N | R | R | Q | L | A | g854170 | |
| 281 | Y | S | T | V | G | T | P | D | Y | I | A | P | E | V | F | M | Q | T | G | Y | N | K | L | C | D | W | S | L | G | V | I | M | Y | E | M | L | I | G | Y | DAPK-4 | | |
| 280 | F | S | T | V | G | T | P | D | Y | I | A | P | E | V | F | M | Q | T | G | Y | N | K | L | C | D | W | S | L | G | V | I | M | Y | E | M | L | I | G | Y | g854170 | | |
| 321 | P | P | F | C | S | E | T | P | Q | E | T | Y | R | K | V | M | N | W | K | E | T | L | V | F | P | P | E | V | P | I | S | E | K | A | K | D | L | I | L | R | DAPK-4 | |
| 320 | P | P | F | C | S | E | T | P | Q | E | T | Y | R | K | V | M | N | W | K | E | T | L | T | F | P | P | E | V | P | I | S | E | K | A | K | D | L | I | L | R | g854170 | |
| 361 | F | C | I | D | S | E | N | R | I | G | N | S | G | V | E | E | I | K | G | H | P | F | F | E | G | V | D | W | E | H | I | R | E | R | P | A | A | I | P | I | DAPK-4 | |
| 360 | F | C | E | W | E | H | R | I | G | A | P | G | V | E | E | I | K | S | N | S | F | F | E | G | V | D | W | E | H | I | R | E | R | P | A | A | I | S | I | g854170 | | |
| 401 | E | I | K | S | I | D | D | T | S | N | F | D | D | F | P | E | S | D | I | L | Q | P | V | P | N | T | T | - | - | - | E | P | D | Y | K | S | K | D | W | V | DAPK-4 | |
| 400 | E | I | K | S | I | D | D | T | S | N | F | D | E | F | P | E | S | D | I | L | K | P | T | V | A | T | S | N | H | P | E | T | D | Y | K | N | K | D | W | V | g854170 | |
| 438 | F | L | N | Y | T | Y | K | R | F | E | G | L | T | Q | R | G | S | I | P | T | Y | M | K | A | G | K | L | | | | | | | | | | | | | | | DAPK-4 |
| 440 | F | I | N | Y | T | Y | K | R | F | E | G | L | T | A | R | G | A | I | P | S | Y | M | K | A | A | K | | | | | | | | | | | | | | | g854170 | |

FIGURE 4B

| | | | | | | | |
|-----|----------------|---------|---------|--------|-----------|---------|---------|
| 1 | MLLK---- | KHTE | DISSVYE | IRER | LGSGAFSEV | VLAQER | DAPK-5 |
| 1 | MLGAVEGPRWKQAE | DIRDIYD | FRDVLGT | GAFSEV | ILAE | DK | g790790 |
| 36 | GSAHLV | ALKC | IPK | ALRGKE | ALVENE | IAVLRRI | DAPK-5 |
| 41 | RTQK | LV | AIKCI | AKA | LEGE | SGMENE | g790790 |
| 76 | LEDV | HES | PS | SHLY | LA | MELV | DAPK-5 |
| 81 | LDDI | YES | GGHLY | LI | MQLV | SGGEL | g790790 |
| 116 | LVGQ | VLG | AVSY | LHSL | GIVHR | DLKPEN | DAPK-5 |
| 121 | LI | FQ | VLDA | VKY | LHDL | LGIVHR | g790790 |
| 156 | SDFGL | SKIQ | -AG | NMLGT | ACGTP | GYVAP | DAPK-5 |
| 161 | SDFGL | SKME | DPGS | VLSTAC | GTPGY | VAP | g790790 |
| 195 | VW | ALGV | ISY | ILL | CGYPP | FYDESD | DAPK-5 |
| 201 | CW | SI | GVIA | YILL | CGYPP | FYDEN | g790790 |

FIGURE 5A

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|---|---------|
| 235 | F | W | D | D | I | S | E | S | G | K | D | F | I | R | H | L | L | E | R | D | L | Q | K | R | F | T | C | Q | Q | A | L | R | D | L | W | I | F | W | D | T | DAPK-5 |
| 241 | Y | W | D | D | I | S | D | S | A | K | D | F | I | R | H | L | M | E | K | D | P | E | K | R | F | T | C | E | Q | A | L | Q | H | P | W | I | A | G | D | T | g790790 |
| 275 | G | F | G | R | D | I | L | G | F | V | S | E | Q | I | R | K | N | F | A | W | T | H | W | K | R | A | F | N | A | T | L | F | L | R | H | I | R | K | L | - | DAPK-5 |
| 281 | A | L | D | K | N | I | H | Q | S | V | S | E | Q | I | K | K | N | F | A | K | S | K | W | K | Q | A | F | N | A | T | A | V | V | R | H | M | R | K | L | Q | g790790 |
| 314 | - | G | Q | I | P | E | G | E | G | - | - | A | S | E | Q | G | M | X | R | H | S | H | X | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | DAPK-5 |
| 321 | L | G | T | S | Q | E | G | Q | G | Q | T | A | S | H | G | E | L | T | P | V | A | G | P | A | A | G | C | C | C | R | D | C | C | V | E | P | G | T | g790790 | | |
| 335 | - | L | R | A | G | Q | P | P | K | W | DAPK-5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 361 | E | L | S | P | T | L | P | H | Q | L | g790790 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

FIGURE 5B

| | | |
|-----|---|---------|
| 1 | M I L A S V L R S G P G G L P L R P L L G P A L A L R A R S T S A T D T H H V | DAPK-6 |
| 1 | - - - - - | g924921 |
| 41 | E M A R E R S K T V T S F Y N Q S A I D A A A E K P S V R L T P T M M L Y A G R | DAPK-6 |
| 11 | E L A R E R S K T V T S F Y N Q S A I D V V A E K P S V R L T P T M M L Y S G R | g924921 |
| 81 | S Q D G S H L L K S A R Y L Q Q E L P V R I A H R I K G F R C L P F I I G C N P | DAPK-6 |
| 51 | S Q D G S H L L K S G R Y L Q Q E L P V R I A H R I K G F R S L P F I I G C N P | g924921 |
| 121 | T I L H V H E L Y I R A F Q K L T D F P P I K D Q A D E A Q Y C Q L V R Q L L D | DAPK-6 |
| 91 | T I L H V H E L Y I R A F Q K L T D F P P I K D Q A D E A Q Y C Q L V R Q L L D | g924921 |
| 161 | D H K D V V T L L A E G L R E S R K H I E D E K L V R Y F L D K T L T S R L G I | DAPK-6 |
| 131 | D H K D V V T L L A E G L R E S R K H I E D E K L V R Y F L D K T L T S R L G I | g924921 |
| 201 | R M L A T H H L A L H E D K P D F V G I I C T R L S P K K I I E K W V D F A R R | DAPK-6 |
| 171 | R M L A T H H L A L H E D K P D F V G I I C T R L S P K K I I E K W V D F A R R | g924921 |

FIGURE 6A

SECRET
NO FORN DISSEM
EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

| | | |
|-----|---|-------------------|
| 241 | L C E H K Y G N A P R V R I N G H V A A R F P F I P M P L D Y I I L P E L L K N A | DAPK-6 g924921 |
| 211 | L C E H K Y G N A P R V R I N G H V A A R F P F I P M P L D Y I I L P E L L K N A | |
| 281 | M R A T M E S H L D T P Y N V P D V V I T I A N N D V D L I I R I S D R G G I | DAPK-6 g924921 |
| 251 | M R A T M E S H L D T P Y N V P D V V I T I A N N D V D L I I R I S D R G G I | |
| 321 | A H K D L D R V M D Y H F T T A E A S T Q D P R I S P L F G H L D M H S G A Q S | DAPK-6 g924921 |
| 291 | A H K D L D R V M D Y H F T T A E A S T Q D P R I S P L F G H L D M H S G A Q S | |
| 361 | G P M H G F G F G L P T S R A Y A E Y L G G S L Q L Q S L Q G I G T D V Y L R L | DAPK-6 g924921 |
| 331 | G P M H G F G F G L P T S R A Y A E Y L G G S L Q L Q S L Q G I G T D V Y L R L | |
| 401 | R H I D G R E E S F R I | DAPK-6 g924921 |
| 371 | R H I D G R E E S F R I | |

FIGURE 6B

| | | | | | |
|-----|---|---|-----------|-------------------------------|--------|
| 1 | M L E K L E F E D E A V E D S E | - - - - - | - - - - - | S G V Y M R F M R S H K C Y D | DAPK-7 |
| 1 | M E T V I S S D S S P A V E N E | H P Q E T P E S N N S V Y T S F M K S H R C Y D | | g1335856 | |
| 32 | I V P T S S K L V V F D T T L Q V K K A F F A L V A N G V R A A P L W E S K K Q | | | DAPK-7 | |
| 41 | L I P T S S K L V V F D T S L Q V K K A F F A L V T N G V R A A P L W D S K K Q | | | g1335856 | |
| 72 | S F V G M L T I T D F I N I L H R Y Y K S P M V Q I Y E L E E H K I E T W R E L | | | DAPK-7 | |
| 81 | S F V G M L T I T D F I N I L H R Y Y K S A L V Q I Y E L E E H K I E T W R E V | | | g1335856 | |
| 112 | Y L Q E T F K P L V N I S P D A S L F D A V Y S L I K N K I H R L P V I D P I S | | | DAPK-7 | |
| 121 | Y L Q D S F K P L V C I S P N A S L F D A V S S L I R N K I H R L P V I D P E S | | | g1335856 | |
| 152 | G N A L Y I L T H K R I L K F L Q L F M S D M P K P A F M K Q N L D E L G I G T | | | DAPK-7 | |
| 161 | G N T L Y I L T H K R I L K F L K L F I T E F P K P E F M S K S L E E L Q I G T | | | g1335856 | |

FIGURE 7A

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|----------|----------|
| 192 | Y | H | N | I | A | F | I | H | P | D | T | P | I | I | K | A | L | N | I | F | V | E | R | I | S | A | L | P | V | V | D | E | S | G | K | V | V | D | I | DAPK-7 | |
| 201 | Y | A | N | I | A | M | V | R | T | T | P | V | Y | V | A | L | G | I | F | V | Q | H | R | V | S | A | L | P | V | V | D | E | K | G | R | V | V | D | I | g1335856 | |
| 232 | Y | S | K | F | D | V | I | N | L | A | A | E | K | T | Y | N | N | L | D | I | T | V | T | Q | A | L | Q | H | R | S | Q | Y | F | E | G | V | V | K | C | N | DAPK-7 |
| 241 | Y | S | K | F | D | V | I | N | L | A | A | E | K | T | Y | N | N | L | D | V | S | V | T | K | A | L | Q | H | R | S | H | Y | F | E | G | V | L | K | C | Y | g1335856 |
| 272 | K | L | E | I | L | E | T | I | V | D | R | I | V | R | A | E | V | H | R | L | V | V | N | E | A | D | S | I | V | G | I | I | S | L | S | D | I | L | Q | DAPK-7 | |
| 281 | L | H | E | T | L | E | T | I | I | N | R | L | V | E | A | E | V | H | R | L | V | V | D | E | N | D | V | V | K | G | I | V | S | L | S | D | I | L | Q | g1335856 | |
| 312 | A | L | I | L | T | P | A | G | A | K | Q | K | E | T | E | T | E | | | | | | | | | | | | | | | | | | | | | | | DAPK-7 | |
| 321 | A | L | V | L | T | G | G | E | K | K | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | g1335856 | | |

FIGURE 7B